

Chapter 3

Environmental Consequences

This chapter describes the potential environmental impacts of the Applicant's proposal to construct and operate a new rail line in central Utah between Salina and Juab. The purpose of this rail line is to move coal from a new loading facility to be constructed southwest of Salina to a mainline track operated by UPRR on the west side of the Sevier River Valley. The impacts of this action were first described in a Draft EIS published in June 2007.

Since publication of the Draft EIS, OEA identified new alternatives that reduce the total impacts to wetlands in the project area. The environmental consequences of these new alternatives are described in this chapter. This chapter also presents a discussion of additional efforts in evaluating the project under Section 106 of the National Historic Preservation Act since the Draft EIS was issued.

This Supplemental Draft EIS evaluates and updates information for only those resources that would be directly affected by the new alternatives. Appendix D of this Supplemental Draft EIS presents the original discussion of the affected environment and environmental consequences as described in the June 2007 Draft EIS.

Alternative B in the north and south was the Applicant's Proposed Action in the Draft EIS. This alternative connects with the UPRR mainline at the Juab siding and runs south to Salina. However, that alternative would affect over 12 acres of wetlands. Consequently, OEA has evaluated several additional alternatives that would affect fewer wetlands. The results of that evaluation are discussed in Chapter 2, Proposed Action and Alternatives, of this Supplemental Draft EIS. OEA has identified the following two alternatives for detailed environmental analysis:

- **Applicant's Proposed Action (Alternative B/B2).** The Applicant's Proposed Action in this Supplemental Draft EIS would involve constructing and operating a 43.2-mile rail line that would begin at the UPRR track on the Juab siding and would end southwest of Salina. This alternative is a combination of Alternative B on the north and Alternative B2 on the south. The alternative runs generally north-south, passing through the eastern edge of Chicken Creek Reservoir, crossing the Sevier Bridge Reservoir at Yuba Narrows, and then running south along the western valley of the Sevier River. The alignment crosses U.S. 50 on the west side of Salina and continues southward, crossing U.S. 89/SR 118, the Sevier River, and the Salina Industrial Park.
- **Alternative B3/B2.** This alternative is a combination of Alternative B3 on the north and Alternative B2 on the south. It would involve constructing and operating a 45.1-mile rail line that would begin at a new track that connects the Juab and Sharp sidings. The Alternative B3 alignment was created by moving the northern terminus northeast closer to the Sharp siding near Levan and creating an alignment that runs, in a north-south direction, east of Alternative B to avoid Chicken Creek Reservoir, which is located in the north portion of the study area. Once past the southern edge of Chicken Creek, the Alternative B3 alignment curves slightly southwest to a point about 4.5 miles north of the Juab County–Sanpete County border where the

alignments for Alternatives B and B3 in the north portion of the study area are the same. Alternative B3/B2 follows the Proposed Action (B2 in the south portion) from a point northeast of Yuba Hills to its southern terminus at a new loading facility southwest of Salina.

The impacts of these alternatives on wetlands, agriculture, noise, Federal land, state land, historic properties, and paleontological resources are presented in this chapter. These resources would be the most directly affected by the alignment changes of the new alternatives. This chapter also briefly describes impacts on other resources but does not present details on those impacts. Appendix D of this Supplemental Draft EIS presents the original discussion of the affected environment and environmental consequences on other resources as described in the June 2007 Draft EIS because nothing has changed regarding those resources since the publication of the Draft EIS.

OEA specifically requests comments on the impacts described in the Draft EIS and Supplemental Draft EIS from all interested parties and the public and will assess these comments and make a final determination regarding a Preferred Alternative in the Final EIS.

3.1 Wetlands and Waters of the U.S.

3.1.1 Regulatory Setting

Waters of the U.S., including wetlands, perennial streams, intermittent streams, and ephemeral washes, are protected under the Clean Water Act of 1977. Executive Order 11990, Protection of Wetlands, established Federal policy to “avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.”

Section 404 of the Clean Water Act requires a permit for the discharge of dredge or fill material into Waters of the U.S. The USACE Section 404 permit evaluation requires a comprehensive analysis of the steps taken to avoid and minimize wetland impacts and requires mitigation to compensate for unavoidable impacts on jurisdictional wetlands (that is, areas subject to regulation under the Clean Water Act).

3.1.2 Study Area

In October 2004, November 2004, and July 2005, OEA conducted preliminary wetlands investigations in select areas that represented the different wetland types and ephemeral drainages found along the project corridor. This information provided an overview of wetlands in the study area and was described in the Draft EIS (see Section 3.4.5, Wetlands and Waters of the U.S., of the Draft EIS). However, informal comments on the Draft EIS from EPA, USDOJ, USACE, and the Utah Division of Wildlife Resources requested greater detail regarding these wetlands.

In 2008 and 2009, the Applicant conducted a full wetland investigation in the study area to analyze the potential impacts on Waters of the U.S., including wetlands, from the project alternatives. The investigation was conducted according to USACE methods (Bio-West 2009). Fields surveys were made during May and August 2008 to investigate jurisdictional

wetland boundaries and the limits of other jurisdictional Waters of the U.S. The Applicant's wetland investigation report (Bio-West 2009) was completed in January 2009 and was provided to OEA and to USACE, as a cooperating agency, for review and comment.

The study area for the Applicant's wetland investigation included the length of Alternative B, which is about 43.1 miles long (as studied in the Draft EIS). The Applicant's study area varied in width from about 150 feet to more than 600 feet in the areas that include multiple alignment alternatives. The new alternatives—Alternatives B1 and B2—were included in this study area. Alternative B3 lies just to the north of the study area for Alternative B and was developed after the Applicant's wetland investigation was completed. To determine the number and types of wetlands in this area, the Applicant conducted field reconnaissance for wetlands in this area but did not delineate those wetlands. Further information on the wetlands along the Alternative B3 alignment is presented in Section 3.1.3.1, Wetland Areas, of this chapter.

For use in this Supplemental Draft EIS, OEA independently verified the Applicant's information on wetlands presented in the report *Central Utah Rail Wetland Investigation, Juab, Sanpete, and Sevier Counties, Utah* (Bio-West 2009) by:

- Reviewing the report's methodology and findings
- Discussing the report's findings with USACE
- Reviewing data and aerial photographs from the Natural Resources Conservation Service (NRCS) and the U.S. Geological Survey (USGS)

Section 3.1.3, Existing Conditions, of this chapter is based on the Applicant's report and describes the existing conditions of potentially jurisdictional areas in the study area investigated in accordance with USACE protocol. Section 3.1.4, Impacts to Wetlands and Waters of the U.S., of this chapter considers potential impacts to jurisdictional areas based on the wetland investigation report and in comparison to the Draft EIS impact estimates.

For the analysis in this Supplemental Draft EIS, all wetlands and other areas described as Waters of the U.S. by the Applicant's 2009 wetland investigation report are assumed to be jurisdictional, but an actual determination of jurisdictional areas would be made by USACE after initiation of the Section 404 permitting process. Ultimately, USACE determines whether a wetland is jurisdictional under the Clean Water Act. As a cooperating agency, USACE may adopt OEA's Final EIS as part of its permitting process, and, if so, OEA will incorporate the conditions of that permit in the final conditions of its Final Decision if the Section 404 permit is granted before a decision by the Board.

3.1.3 Existing Conditions

The 2009 wetland investigation identified a total of 75.7 acres of wetlands and special aquatic sites (playa) in the study area. These areas are shown in Figure 3-1 below and summarized in Table 3-1 below. Appendix C, Detailed Wetland Maps, of this Supplemental Draft EIS shows detailed maps of each wetland.

Figure 3-1. Wetlands

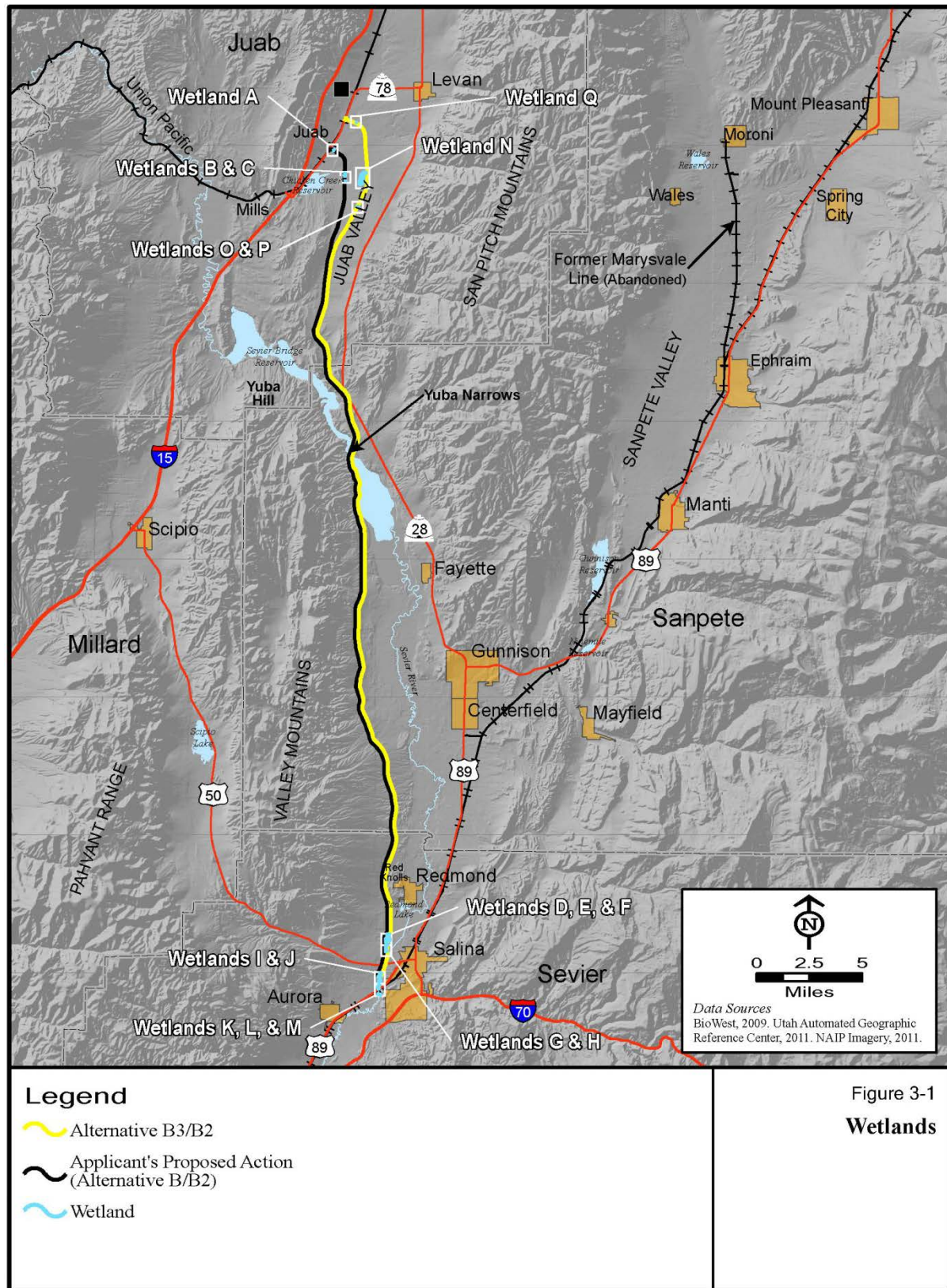


Table 3-1. Jurisdictional Wetlands in the Study Area				
in acres				
Identified Wetland ^a	Wet Meadow	Playa	Emergent Marsh	Riparian Salt Cedar
A	3.0	—	—	—
B	—	9.8	—	—
C	0.9	—	—	—
D	3.8	—	—	—
E	6.7	—	—	—
F	—	—	10.3	—
G	1.3	—	—	—
H	11.0	—	—	—
I	13.6	—	—	—
J	—	—	4.6	—
K	—	—	5.7	—
L	—	—	—	4.5
M	—	—	—	0.5
N	—	—	—	—
O ^b	—	—	0.1	—
P ^b	—	—	< 0.1	—
Q ^b	—	—	—	—
Total^c	40.3	9.8	20.7	5.0

Source: Bio-West 2009

^a See Figure 3-1 above and Figure 3-2 below for locations.

^b Acreages for wetlands O, P, and Q are estimates. No detailed delineations have been completed.

^c Values for various wetland types have been rounded to the nearest 0.1 acre and might not exactly total the acreage of wetlands in the study area.

3.1.3.1 Wetland Areas

Wet Meadow

The study area contains 40.3 acres of wet meadow wetlands. These wetlands are hydrologically connected to the Sevier River and local groundwater and range from non-saline to somewhat saline. Wet meadows are dominated by bulrush (*Scirpus* spp.), Baltic rush (*Juncus balticus*), and saltgrass (*Distichlis* spp.). These wetlands have typically been altered by grazing and agricultural activities.

Wet meadows provide valuable water sources in the arid environment of the study area. These areas also provide flood storage and allow groundwater recharge. Wet meadows provide foraging habitat for migratory waterfowl and breeding areas for reptiles and

amphibians. These wetlands are also important buffer zones to help protect the Sevier River from agricultural pollution.

Emergent Marsh

The study area contains 20.7 acres of emergent marsh wetlands. This entire wetland complex is located in Sevier County. These wetlands are generally non-saline to slightly saline and are dominated by bulrush and cattail (*Typha* spp.).

Emergent marsh wetlands provide habitat for specialized plants and ecosystems that exist only in saturated wetlands. These wetlands provide flood-storage capacity and groundwater recharge and provide foraging habitat for migratory waterfowl. Emergent marsh wetlands are also important buffer zones to help protect the Sevier River from agricultural pollution.

Playa-Type Wetlands

The study area contains 9.8 acres of playa-type wetlands. Playas are technically not considered wetlands according to USACE protocol because they lack sufficient vegetation, but they are special aquatic sites that typically receive the same regulatory consideration as other types of wetlands. Playas are generally saline and alkali and, although sparsely vegetated, are dominated by pickleweed (*Salicornia virginica*) with limited amounts of saltgrass. These wetlands are generally covered with a surface salt crust and have a cracked surface. Playa-type wetlands have also been altered and dewatered, but they continue to show evidence that meets the criteria for jurisdictional areas.

Playa-type wetlands provide habitat for specialized plants and ecosystems that exist only in high-saline and alkali wetlands. These wetlands provide flood-storage capacity and groundwater recharge. Playas provide foraging habitat for migratory waterfowl and wildlife.

Riparian Salt Cedar

A total of 5.0 acres of riparian salt cedar wetlands were identified in the study area. Salt cedar (*Tamarix ramosissima*) is an aggressive invasive plant that forms monotypic stands which severely limit the growth of native plants in riparian areas.

These wetlands are not nearly as diverse or productive as riparian wetlands dominated by native vegetation; however, riparian salt cedar areas still provide limited breeding, foraging, and nesting habitat for migratory birds, small and large mammals, reptiles, and amphibians. Although altered by salt cedar, these riparian areas also contribute to stream structure and functions, limit erosion, and provide additional buffer zones to help protect the Sevier River from agricultural pollution.

Wetlands along the Alternative B3 Alignment

The Applicant conducted a preliminary field reconnaissance in the project area south of Levan (Bio-West 2009). The reconnaissance was conducted to determine the presence or absence of potentially jurisdictional wetlands within the proposed Alternative B3 alignment corridor and to provide a preliminary estimate of wetland areas within the project's northern limits. This preliminary reconnaissance did not constitute official wetland delineations.

The rail corridor was evaluated from the northernmost junction with the existing UPRR rail line to an area about 7 miles to the south. The width of the corridor examined was about

100 feet on each side of the centerline. The proposed rail line is not expected to affect resources more than 25 to 50 feet away on either side of the centerline.

The majority of the corridor was dominated by uplands consisting of irrigated agricultural lands and livestock grazing areas. Three small wetlands and one intermittent stream were observed within the corridor (see Figure 3-2 below). The small intermittent stream is Little Salt Creek. Little Salt Creek is illustrated on the Fairfield-Nephi Area soil survey from the Soil Conservation Service (USDA SCS 1984). Little Salt Creek is also a named stream on the USGS Skinner Peaks, Utah, 7.5-Minute Topographic Quadrangle map. The Applicant used soils and hydrology as the primary indication that these areas are wetlands. Livestock grazing and human activity in these areas eliminated the majority of any identifiable vegetation indicators.

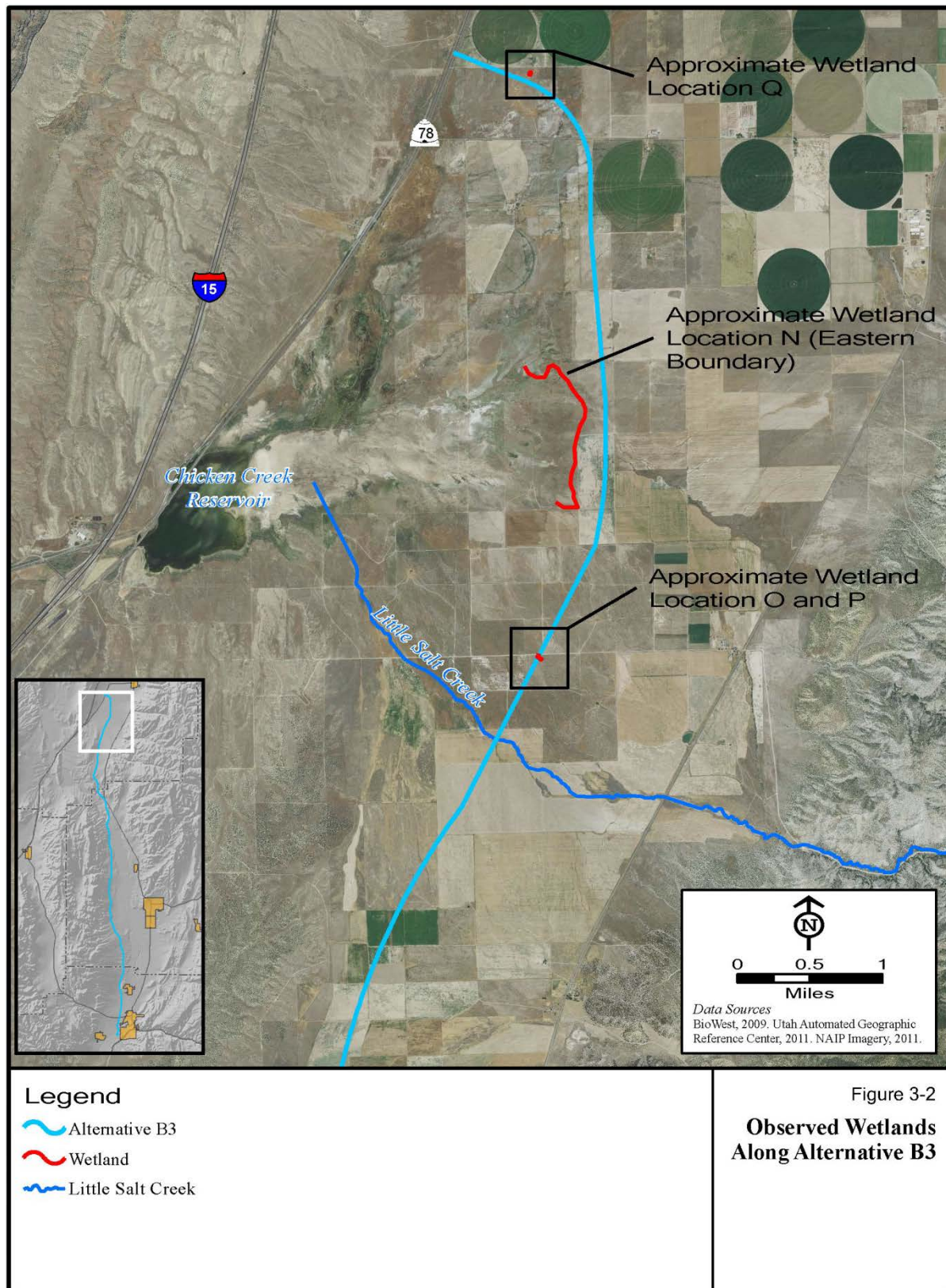
The three wetland areas appear to be less than about 0.5 acre total. Limited soil samples were visually documented. In the wetland areas, soils were dark and organic. This is typical of the hydric soils within wetlands. According to the Soil Conservation Service Soil Survey for the Fairfield-Nephi Area (USDA SCS 1984), the soils in the northern wetland, wetland Q (see Figure 3-2 below), are Nephi silt loam. This soil is described as being well drained with a groundwater depth of 80 inches or more. This soil is not considered a hydric soil; however, wetland A can be described as having hydric soil inclusions in a mapped upland soil. The wetland likely was not mapped on the soil survey because it is less than 0.5 acre.

The two small wetlands (O and P; see Figure 3-2 below), are classified by the soil survey as Manassa silt loam. This soil is described as being a very deep, well-drained soil with a groundwater table depth of 80 inches or more. This soil is not considered a hydric soil; however, wetlands O and P can be described as having hydric soil inclusions in a mapped upland soil. Again, the small size of these wetlands is the contributing factor to their absence in the soil survey. The small wetlands in the corridor had been heavily impacted by irrigation, row crops, and livestock grazing.

In addition to the smaller wetlands and Little Salt Creek, a larger wetland area was observed about 400 feet west of the proposed corridor (identified on Figure 3-2 below as wetland N). This larger wetland (estimated to be over 200 acres) is not within the proposed corridor; however, the extent of this wetland was briefly surveyed in order to verify that the Alternative B3 alignment corridor would not encroach on the wetland boundaries.

USACE is ultimately responsible for determining whether these wetlands are jurisdictional. A detailed analysis of vegetation, soils, and hydrology will be required before the actual extent of wetlands within the proposed corridor can be delineated. A joint permit will be required from the Utah State Engineer's Office and USACE for regulated activities proposed within jurisdictional Waters of the U.S. and other stream areas. If Alternative B3 is selected for implementation, the Applicant would be required to conduct a wetland delineation of the wetlands along Alternative B3 as part of the permitting process.

Figure 3-2. Observed Wetlands along Alternative B3



3.1.3.2 Other Waters of the U.S.

Sevier Bridge Reservoir

Riparian areas associated with the Sevier Bridge Reservoir appear to flood annually. However, the level of flooding appears to vary based on drift lines and vegetation growth patterns. The Sevier Bridge Reservoir is legally allowed to retain water to a level of 5,018 feet, and, due to evidence suggesting that it does so during wet years, the analysis assumes that the reservoir is jurisdictional to a level of 5,018 feet. Therefore, the areas within the reservoir are assumed to be jurisdictional Waters of the U.S. USACE would verify this conclusion during its formal review of the Section 404 permit application. The portion of the reservoir within the study area contains 13.2 acres of Waters of the U.S. No additional jurisdictional wetlands were identified in the study area in the vicinity of the Sevier Bridge Reservoir.

Rivers and Perennial Streams

The study area contains 630 linear feet of perennial rivers and streams. This includes 230 linear feet of Denmark Wash (a perennial stream) and 400 linear feet of the Sevier River.

Intermittent Streams and Ephemeral Washes

Typically, USACE defines intermittent streams as having a connection to groundwater and flowing for significant periods. Intermittent streams often lack surface flow during drier parts of the year; however, groundwater is normally present near the stream bed. The study area contains 1,340 linear feet of one intermittent stream, Little Salt Creek (see 1965 USGS Skinner Peaks, Utah, 7.5-minute topographic quadrangle map). At the time of the field reconnaissance, surface water was not observed within the stream; however, rocky substrate and moist sediment were observed within the stream bed. The stream had a defined channel and definite bed and bank. The stream channel was about 3 feet wide and 2 feet deep.

In addition, the stream corridor was dominated by mature coyote willow (*Salix exigua*). These shrubs indicate the presence of groundwater near the surface for the majority of the growing season (Bio-West 2009). Little Salt Creek bisects the proposed corridor about 5 miles south of the northern limits, which is along SR 78 (Bio-West 2009).

Chris Creek is also referenced as an intermittent stream on USGS maps; however, it was not evident on the ground in the study area. The flow might not be sufficient in the uppermost reaches of the watershed to create a defined channel, the flow might be piped in the study area, or the channel is eliminated as flows get spread over upgradient farmland.

Ephemeral washes show evidence of high flow for short durations during spring runoff or rainfall events; however, they do not show evidence of groundwater connections. There are 24 unnamed ephemeral washes in the study area. These areas are jurisdictional and, assuming a 50-foot crossing of each drainage, the study area contains 1,200 linear feet of ephemeral washes. Heavy ephemeral flow has prevented the drainages from forming upland characteristics such as the growth of plants or the deposition of soil. High-flow events have also created defined channels within these washes.

3.1.4 Impacts to Wetlands and Waters of the U.S.

This section considers potential impacts to Waters of the U.S. based on the 2009 wetland investigation and in comparison to the Draft EIS impact estimates. The 2009 wetland investigation report (Bio-West 2009) described the existing wetlands. OEA used these data to estimate the potential impacts on wetlands caused by the Applicant's Proposed Action (Alternative B/B2) and Alternative B3/B2. Table 3-2 summarizes the results of OEA's analysis.

Table 3-2. Estimated Impacts on Wetlands in acres			
Wetland Type	Alternative Impacts Based on 2009 Wetland Investigation ^a		
	Alternative B ^b	Proposed Action (Alternative B/B2)	Alternative B3/B2
Wet meadow	4.9	0.5	0.7
Emergent marsh	4.9	0.0	0.0
Playa	1.2	1.3	0.0
Riparian salt cedar	1.3	1.3	1.3
Total wetlands	12.3	3.1	2.1

Source: Bio-West 2009

^a Values are rounded to the nearest 0.1 acre. Some of the 2009 values in this table are slightly different than those presented in the wetland investigation report. These slight differences are attributed to rounding errors in the wetland investigation report that have since been corrected.

^b Alternative B was evaluated in the Draft EIS. The values shown are for the Alternative B alignment in the Draft EIS and have been updated to reflect the wetland investigation conducted by the Applicant in 2009 (Bio-West 2009).

The Draft EIS stated that Alternative B would impact a total of 163 wetland acres. This value was subsequently found to be in error. The Draft EIS information was based on available existing data (including NRCS data, USGS maps, and aerial photographs) and field investigations intended to characterize resources in the study area, not a formal delineation of jurisdictional areas. Because the estimated acreage of impact was not based on true wetland delineations, further analysis found that the Draft EIS impact estimates for wetlands were inaccurate. The 2009 wetland investigation found that the actual area of wetlands within the Alternative B right-of-way is considerably less than the wetland areas estimated in the Draft EIS, and that Alternative B would impact only 12.3 acres of those wetlands, as noted above in Table 3-2.

In addition to wetland impacts, the Draft EIS estimated that Alternative B would cross 85 ephemeral washes. Field investigations for the 2009 wetland investigation included identifying ephemeral washes as well as perennial streams and rivers, intermittent streams, and the Sevier Bridge Reservoir. The 2009 wetland investigation concluded that impacts to these Waters of the U.S. would be similar for the Proposed Action (Alternative B/B2) and for Alternative B3/B2. Table 3-3 below lists the impacts to these jurisdictional areas.

Table 3-3. Estimated Impacts on Non-wetland Waters of the U.S.	
Jurisdictional Type	Proposed Action (Alternative B/B2) and Alternative B3/B2
Sevier River	30-linear-foot span
Sevier Bridge Reservoir	1.4 acres (1,170-linear-foot span)
Perennial streams	80 linear feet
Intermittent streams	110 linear feet
Ephemeral washes	1,200 linear feet

Estimated impacts to these resources are similar for the Proposed Action (Alternative B/B2) and Alternative B3/B2.

3.1.4.1 Proposed Action (Alternative B/B2)

According to the 2009 wetland investigation report, the Applicant's Proposed Action in the Draft EIS (Alternative B) would impact 12.3 acres of wetlands (see Table 3-2 above). OEA and the Applicant discussed with USACE Alternative B as studied in the Draft EIS. At OEA's and USACE's request, the Applicant was able to make adjustments to the alignment on the southern end of the project (identified as Alternative B2) that would allow 9.2 acres of wetland to be avoided along the southern portion of the alignment. This would reduce total wetland impacts from 12.3 to 3.1 acres. Of these 3.1 acres of wetland impacts, about 1.5 acres are at the northern end of the alignment and 1.6 acres are at the southern end.

The impacts to other Waters of the U.S. are shown in Table 3-3 above.

3.1.4.2 Alternative B3/B2

Alternative B3/B2 would shift the location of the project's connection with the UPRR track toward the Sharp siding where coal is now loaded into rail cars for shipment out of the region. This adjustment was made to avoid impacting the wetlands in the Chicken Creek Reservoir area. This alternative would avoid impacts to 0.3 acre of wet meadow and 1.2 acres of playa wetlands but would fill three small wetlands totaling about 0.5 acre¹ along Alternative B3 north and east of Chicken Creek Reservoir. Therefore, as shown in Table 3-2 above, Alternative B3/B2 would impact about 2.1 acres of wetlands.

The impacts on other Waters of the U.S. are shown in Table 3-3 above.

3.1.4.3 Impacts during Construction

In areas where the proposed rail project would cross through or adjacent to wetlands, construction activities would be constrained to limit or avoid temporary impacts. Construction limits would be restricted to the permanent right-of-way width. Silt fencing would be placed along the edge of the disturbed area to prevent stormwater runoff from carrying additional sediments to the wetlands. The Applicant will comply with the provisions developed by USACE during the Section 404 permitting process.

¹ This wetland was not delineated. Its size was determined by a field survey conducted by the Applicant. The survey included limited shovel testing, but no delineation was made, and the type of wetland was not determined.

3.2 Agriculture

3.2.1 Existing Conditions

The study area for the agriculture analysis in the Draft EIS included the area within 1 mile of the centerline of the proposed alternatives and included parts of Juab, Sanpete, and Sevier Counties. The alternatives analyzed in this Supplemental Draft EIS are generally within the original study area limits; therefore, no additional agricultural land is analyzed for the existing conditions. A very short section at the north end of Alternative B3/B2 is outside the original study area; however, based on a review of aerial photographs supplemented with an onsite examination of the area surrounding the proposed alignment, no additional evaluation is warranted to determine the existing conditions for agricultural use.

3.2.1.1 *Farmland and Crops*

As described in the Draft EIS, a large portion of the land in the southern part of the study area is farmland. There are irrigated crops (such as alfalfa, corn, and small grains such as wheat, barley, and oats) west of Gunnison, and the rest of the farmland along the study area is non-irrigated. Alfalfa is grown for 5 to 7 years, and then small grain is grown for 1 year to break the disease and insect cycle (Gale 2003). The acreages of specific crops differ slightly on a year-to-year basis; farmers tend to rotate crops as described above with alfalfa as well as allow some parcels to go idle before planting crops in a new season. However, because relatively little development has occurred in the study area since the Draft EIS analysis was completed, it's reasonable to assume that the overall acreage of cropland is unchanged, even though specific crop acreages might differ slightly.

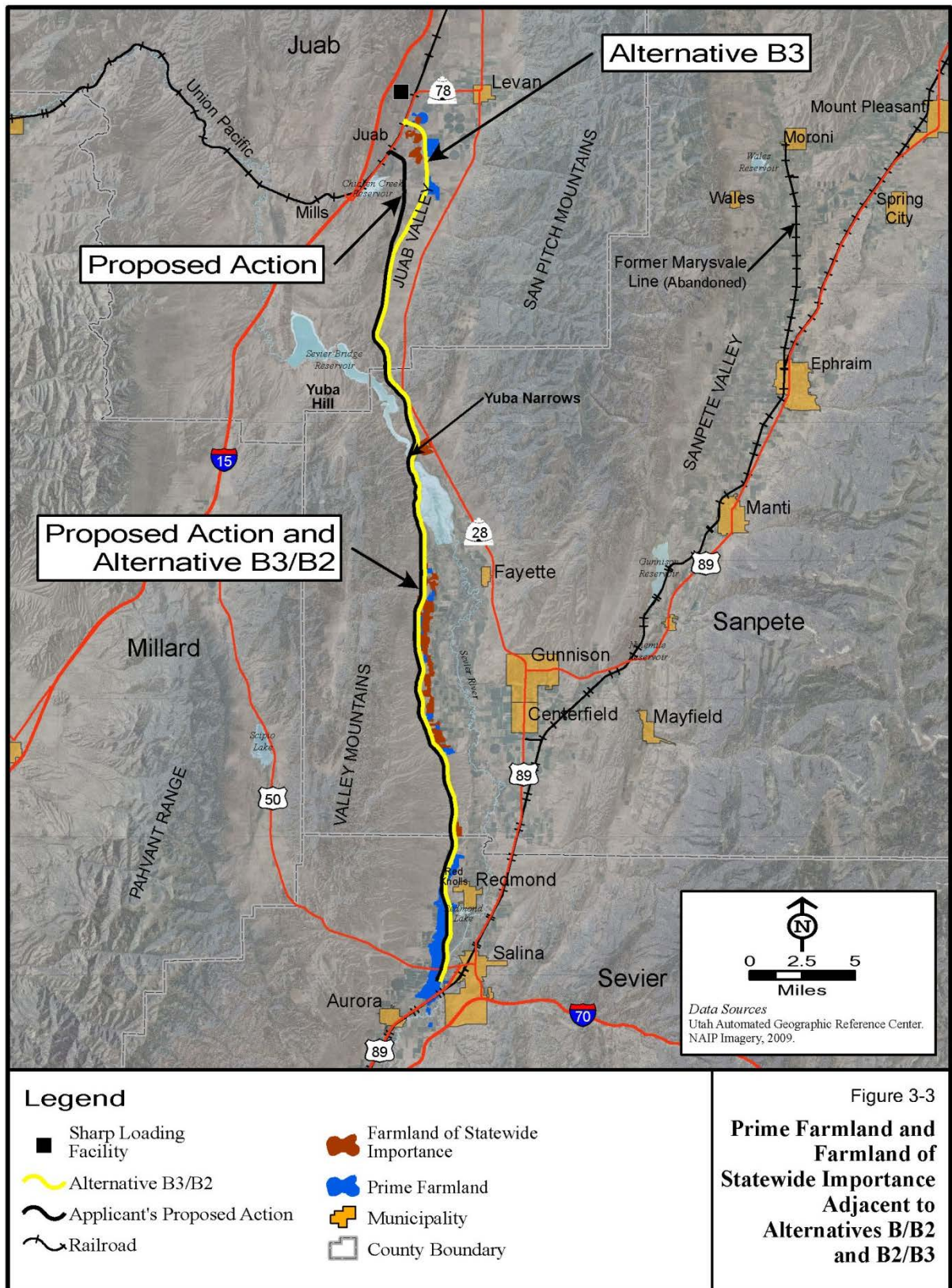
3.2.1.2 *Farmland Soils*

The Farmland Protection Policy Act of 1981 requires that Federal projects minimize the conversion of prime farmland to nonagricultural uses and that such projects consider state and local farmland protection policies to the extent practical. Specially classified farmland receives close scrutiny under this act. Farmland includes prime farmland, unique farmland, and farmland of statewide or local importance. The following definitions are found in the Farmland Protection Policy Act:

- *Prime farmland* is land that “has the best combination of physical and chemical characteristics for producing” agricultural crops.
- *Unique farmland* is land “other than prime farmland that is used for production of specific high-value food and fiber crops,” as determined by the Secretary of Agriculture.
- *Farmland of statewide or local importance* is farmland, other than prime or unique farmland, that is of statewide or local importance for the production of agricultural crops.

Based on information from NRCS (Parslow 2004) and as described in the Draft EIS, the study area does not contain any unique farmland but does contain both prime farmland and farmland of statewide importance, as shown in Figure 3-3 below.

Figure 3-3. Prime Farmland and Farmland of Statewide Importance adjacent to Alternatives B/B2 and B2/B3



Prime Farmland

Based on information from NRCS and as described in Section 3.5.5.1, Prime Farmland, of the Draft EIS, the study area (including Sevier, Juab and Sanpete Counties) contains 1,055 acres of prime farmland. For several reasons, the acreage of existing prime farmland for this Supplemental Draft EIS is the same as that in the Draft EIS. First, little to no development has occurred in the study area since the Draft EIS was published; second, the alternatives are generally within the Draft EIS study area limits; and third, the alternatives are not within the city limits of Salina, Redmond, or Aurora. Portions of the Alternative B3 corridor, about 38 acres, are outside the Draft EIS study area.

Farmland of Statewide Importance

Based on consultation with NRCS (Parslow 2004) and as described in the Draft EIS, the study area contains 1,079 acres of farmland of statewide importance. For the same reasons described under the Prime Farmland section above, the amount of farmland of statewide importance in the study area is assumed to be the same as what was reported in the Draft EIS.

3.2.1.3 *Grazing Allotments*

Because the alternatives analyzed in this Supplemental Draft EIS are within the original Draft EIS study area, it is reasonable to assume that the number of acres and animal unit months (AUMs) associated with grazing allotments have not changed since the Draft EIS was published. Moreover, the alternatives consist of alignment modifications in the southern and northern ends of the study area, which is part of the study area that, although primarily agricultural, does not cross any grazing allotments.

3.2.2 *Impacts to Farmland*

The proposed rail line would directly affect farmland by converting the farmland to railroad right-of-way. The impacts from the alternatives analyzed in this Supplemental Draft EIS—the Proposed Action (Alternative B/B2) and Alternative B3/B2—are presented in this section. The impacts of Alternative B (the Proposed Action in the Draft EIS) are also presented because non-irrigated idle farmland was not included in the original analysis. This farmland type has been included in this Supplemental Draft EIS because it accounts for the majority of non-irrigated agricultural land in the study area and because it likely represents active farmland that is not currently being cultivated due to crop rotation or other reasons.

Because the exact locations of sidings, temporary access roads, and maintenance yards within the right-of-way are not yet known, the amount of impacts to agricultural land within the right-of-way could change slightly if calculated after a final design is completed. See Section 4.2.2, Impacts to Agriculture, of the Draft EIS for impacts from Alternative A (No Action) and Alternative B.

Both direct and indirect farmland impacts were determined in the Draft EIS in the manner described in the Draft EIS. That is, each impacted farmed parcel was evaluated and it was noted as being affected by a strip take (partial acquisition), split, or total take (total acquisition). For that analysis, if access to farmland would be eliminated or if a remaining parcel would be less than 5 acres, the farmland was considered non-farmable and the entire parcel area was included in the impact calculations. OEA did not conduct indirect farmland impacts analyses for the comparative alternatives analysis in this Supplemental Draft EIS.

BLM or NRCS, in consultation with the property owner, would consider, based on the alternative selected and on a case-by-case basis, whether remaining farmland parcels could remain farmable.

For this Supplemental Draft EIS, permanent impacts due to the conversion of farmland to rail right-of-way and temporary construction impacts were determined. Permanent impacts were estimated by offsetting the alternatives' centerlines by 50 feet on each side to represent conservatively a 100-foot right-of-way width and by calculating the amount of cropland and farmland within the right-of-way. Similarly, the centerline was offset 100 feet on each side to represent a 200-foot-wide construction corridor.

Table 3-4 below summarizes the permanent impacts to crops and farmland in the study area. The sections below provide detailed information regarding the impacts from each alternative.

3.2.2.1 Proposed Action (Alternative B/B2)

The Proposed Action would permanently convert about 66 acres of irrigated farmland and about 126 acres of non-irrigated and sub-irrigated cropland to rail right-of-way, for a total of about 192 acres of conversion (see Table 3-4 below). The majority of these impacts would affect land that is currently pasture or range, is now idle, or is being used to grow alfalfa. Only about 13 percent of the total cropland impacts would be to row or grain crops.

Construction of the rail line would temporarily impact an additional 192 acres of farmland outside the right-of-way. Of these 192 acres, about 66 acres are now irrigated. Impacts would last only through construction. The contractor would be required to restore farmlands that are temporarily affected by construction so that the landowner or tenant could resume agricultural activities the following season. Restoration activities would include repairing or replacing irrigation systems damaged or cut off by rail construction.

3.2.2.2 Alternative B3/B2

Because of its additional length (1.9 miles), Alternative B3/B2 would convert about 38 more acres of agricultural lands. Alternative B3/B2 would convert about 66 acres of irrigated cropland and about 165 acres of non-irrigated cropland for a total of about 231 acres of cropland conversion. Construction of this alternative would temporarily affect agricultural practices on about 231 acres. Of these 231 acres, about 66 acres are now irrigated. Impacts would last only through construction. The contractor would be required to restore farmlands that are temporarily affected by construction so that the landowner or tenant could resume agricultural activities the following season. Restoration activities would include repairing or replacing irrigation systems damaged or cut off by rail construction.

Table 3-4. Permanent Impacts to Crops or Farmland by Alternative			
in acres			
Crop or Farmland Type	Alternative B (Evaluated in Draft EIS)	Proposed Action (Alternative B/B2)	Alternative B3/B2
<i>Irrigated Crops or Farmland</i>			
Alfalfa	31	41	41
Corn	1	1	1
Grain	0	0	0
Pasture	26	24	24
Total irrigated	58	66	66
<i>Non-irrigated Farmlands</i>			
Dry grain/seeds	23	23	45
Idle (dry)	12	12	7
Pasture (dry)	37	37	33
Fallow (irrigable)	3	3	23
Idle (irrigable)	36	35	41
Range pasture	8	8	8
Pasture (sub-irrigated)	9	8	8
Total non-irrigated	128	126	165
Total farmland	186	192	231

3.2.3 Impacts to Prime Farmland

Only the impacts from the current Proposed Action (Alternative B/B2) and Alternative B3/B2 are discussed in this section. See Section 4.5.5, Impacts to Prime Farmland, of the Draft EIS for impacts from Alternative A (No Action) and Alternative B (the Applicant's Proposed Action in the Draft EIS). Impacted areas are shown above in Figure 3-3.

The Proposed Action (Alternative B/B2) and Alternative B3/B2 would convert 37 acres of prime farmland in the southern part of the study area. Note that, because of the refinements made to the alignments between June 2007 and December 2012, the acreages of impacts to prime farmland and farmland of statewide or local importance changed from the acreages originally reported to NRCS and shown in the Draft EIS. However, these changes would not have affected the Farmland Protection Policy Act determination, and therefore the NRCS-CPA-106 forms were not resubmitted. While the result of a revised NRCS-CPA-106² rating form would be greater than the 114-point value reported in the Draft EIS, it would remain under the 160-point threshold that requires further consideration for protection, and no additional corridors need to be evaluated.

² NRCS administers the regulations and provides guidance for the completion of USDA Form NRCS-CPA-106 for corridor-type projects with potential impacts to prime and unique farmlands.

3.2.4 Impacts to Farmland of Statewide Importance

Only the impacts from the current Proposed Action (Alternative B/B2) and Alternative B3/B2 are analyzed in this section. See Section 4.5.5, Impacts to Prime Farmland, of the Draft EIS for impacts from Alternative A (No Action), Alternative B (the Applicant's Proposed Action in the Draft EIS), and Alternative C. Impacted areas are shown above in Figure 3-3.

The Proposed Action (Alternative B/B2) and Alternative B3/B2 would each convert about 11 acres of farmland of statewide importance to rail right-of-way. Note that, because of the refinements made to the alignments between June 2007 and December 2012, the acreages of impacts to prime farmland and farmland of statewide or local importance changed from the acreages originally reported to NRCS and shown in the Draft EIS. However, these changes would not have affected the Farmland Protection Policy Act determination, and therefore the NRCS-CPA-106 forms were not resubmitted. While the result of a revised NRCS-CPA-106 rating form would be greater than the 114-point value reported in the Draft EIS, it would remain under the 160-point threshold that requires further consideration for protection, and no additional corridors need to be evaluated.

3.2.5 Impacts to Grazing Allotments

Because neither of the two alternatives would cross any grazing allotments, there would be no impacts to grazing allotments from these alternatives.

3.3 Noise

Noise is defined as unwanted sound. The decibel (dB) is the accepted standard unit for measuring noise. Because human hearing is not equally sensitive to all sound frequencies, only certain frequencies can be considered when measuring noise in decibels. The A-weighted decibel scale corresponds to the sensitivity range for human hearing; noise levels for this scale are measured in dBA. A noise-level change of 3 dBA is barely perceptible to humans, but a 5-dBA change is noticeable.

The principal types of noise that OEA considered in evaluating rail line segments are horn noise and wayside train noise.

- **Horn noise** occurs near grade crossings and warns motorists and pedestrians of approaching trains. All trains are subject to Federal safety regulations administered by the Federal Railroad Administration as well as state safety regulations. Federal regulation 49 CFR 222 requires all trains to sound the locomotive horn when approaching and entering public highway/rail at-grade crossings if the train speed is 15 mph or greater and the railroad does not provide train crew or flag persons on the ground at all times to warn motorists. Highway/rail at-grade crossing warning devices such as bells, flashing lights, and gates do not relieve this requirement to sound the train horn—except in established quiet zones where supplemental safety measures have been instituted. Procedures in 49 CFR 222 and 49 CFR 229 allow communities to establish quiet zones.
- **Wayside train noise** refers to all train-related operational noise adjacent to the right-of-way, excluding warning horn noise. Wayside train noise results from steel train wheels contacting steel rails and from locomotive engine noise and exhaust.

3.3.1 Regulatory Overview

3.3.1.1 Equivalent Sound Level

Federal regulatory agencies often use the equivalent sound level (L_{eq}) scale to evaluate noise impacts (EPA, 40 CFR 201 to 211). With this scale, noise is defined as a constant sound with the same sound energy as a more realistic, fluctuating sound. When reporting sound levels, it is crucial to identify the time period under consideration. For example, $L_{eq}(24)$ is the equivalent sound level for a 24-hour period. Unless otherwise noted, all sound levels provided in this report use $L_{eq}(1)$, the hourly equivalent noise level.

3.3.1.2 Day-Night Average Sound Level

Average noise exposure over a 24-hour period is often presented as a day-night average sound level (L_{dn}). L_{dn} values are calculated from hourly L_{eq} values, with the L_{eq} values for the nighttime period (10 p.m. to 7 a.m.) artificially increased by 10 dBA to reflect the greater disturbance caused by noises at night.

The Federal Noise Control Act of 1972 (40 CFR 201 to 211) recognized that major transportation noise sources associated with commerce should be regulated the same way in every state. Different regulations, particularly in the case of railroads, could interfere with interstate commerce. EPA and FRA developed noise regulations (49 CFR 210) in response to the Noise Control Act that establish noise-level limits for individual pieces of railroad equipment. However, these regulations do not address the effects of multiple or cumulative noise events, such as horn and wayside train noise commonly associated with railroad operations.

Other transportation agencies, such as the Federal Highway Administration, the Federal Transit Administration, and the Federal Aviation Administration, have developed noise assessment and mitigation policies that take multiple noise events into account. These policies, typically based on L_{dn} noise metrics, were developed in response to public concerns over increased noise due to increased transportation activity.

The Board's noise regulations address the effects of multiple noise events in a similar fashion to the policies developed by other transportation agencies. Railroad noise mitigation includes noise barriers, directional horns or quiet zones, and changes in land-use planning.

3.3.2 Existing Conditions

For this analysis, the noise study area is the land adjacent to the proposed alternatives that could be affected by an increase in noise from the rail line. The majority of the study area is undeveloped open space with a very small number of residential and recreational land uses (such as campgrounds) interspersed throughout the study area. The principal sources of background noise in the study area are occasional vehicle traffic on ranch roads, aircraft passing overhead, and wind.

To determine existing noise levels, OEA monitored the noise level at four locations in the study area that represented existing noise conditions. The associated noise levels at each monitoring location are provided in Table 3-5 below.

Table 3-5. Ambient Noise Monitoring Data

Location	Monitored Noise Level (dBA)
Along SR 28 near Juab County–Sanpete County border near Painted Rocks Campground	36.6
Near Sevier River south of Sevier Bridge Reservoir	41.4
Just south of Juab County–Sanpete County border near Redmond	45.8
Near southern project terminus east of Sevier River, southwest of Salina	48.3

OEA considers residences, schools, libraries, parks, hospitals, retirement homes, and nursing homes as sensitive to noise and therefore considers these buildings to be sensitive noise receptors. Painted Rocks Campground is about 0.5 mile southwest of Alternative B. There are 150 residences within 1 mile of Alternatives B, B1, B2, and B3, most of which are clustered west of Gunnison, Redmond, and Salina. Of these, 16 residences are within 0.25 mile of the proposed railroad line, and one residence is just over 200 feet from the proposed centerline. There are no other sensitive noise receptors in the area.

3.3.3 Noise Impacts

Train horn soundings are required from 0.25 mile prior to a crossing until the locomotive passes through the crossing. The Proposed Action would result in 69 highway/rail at-grade crossings. Of these, only about nine crossings would be subject to the train horn sounding requirements. Alternative B3/B2 would require one additional public road crossing (at Powell Road). Alternative B3/B2 would have 10 highway/rail at-grade crossings that would require train horn sounding. In addition, there are a number of private, unpaved crossings in the study area. In general, warning horns are not sounded at these private crossings.

Highway/rail at-grade crossings for the alternatives are summarized by type in Table 3-6.

Table 3-6. Highway/Rail At-grade Crossings That Would Occur as a Result of the Proposed Project

Road Type	Proposed Action (Alternative B/B2)	Alternative B3/B2
U.S. 50	1	1
State highway, secondary road	3	4
Secondary two-track: UDOT highway map	1	1
Local/rural/city road	13	13
Vehicular trail, four-wheel-drive only	51	51
Total	69	70

Residences within 0.25 mile along either alternative could be exposed to horn noise and/or wayside train noise. Because horn noise is significantly louder than wayside train noise, it extends farther from the rail line and affects a greater number of noise receptors. Because of the relatively low background noise levels in the study area, people at the 16 residences within 0.25 mile of the crossings would likely hear train warning signals sounded at the public crossings. Some people at residences within 1 mile of the crossings might also hear train warning horns sounded at public crossings.

Each alternative assumes that one round trip (two movements which equals one full load and one empty back-haul) per day would pass through study area. The nearest sensitive noise receptor to the Proposed Action (Alternative B/B2) and Alternative B3/B2 is Yuba Lake Recreation Area. The park has campground facilities within about 0.5 mile of the two alternatives, which share a common alignment in this area. One to two trains per day passing through the Yuba Lake Recreation Area could create a minor short-term disturbance to recreational campers but would not exceed the Board's noise thresholds.³

OEA performed a conceptual noise modeling analysis to determine the potential impacts of the Proposed Action. The following assumptions were used in this analysis:

- 2 trains/day
- 2 locomotives/train
- 100 railcars/train
- 30 miles per hour
- No trains between 10 p.m. and 7 a.m.
- SEL⁴ for locomotives = 94.3 dBA (Board 2008)
- SEL for rail cars = 91.8 dBA (Board 2008)
- L_{max}⁵ for horns (maximum allowed under FRA rules) = 110 dBA

Based on the above assumptions, the results of the modeling indicate that the distance to the 65 dBA L_{dn} wayside train noise contour is 38 feet. This is within the proposed right-of-way limits for the project. No sensitive receptors are located within the 65-dBA L_{dn} noise contour for the project. At road crossings, horn noise causes the distance to the 65 dBA L_{dn} noise contour to increase to 212 feet. One residence would be located within the 65-dBA L_{dn} contour. Because it is a public safety requirement, train horn noise is not mitigated. Communities can apply for a Quiet Zone under rules established by FRA to prevent train horns from being sounded.

Construction impacts would occur from the noise of construction equipment. These impacts would be limited to daylight hours, including near residential areas.

³ These thresholds are (1) an incremental increase in noise levels of 3 decibels L_{dn} or more and (2) an increase to a noise level of 65 decibels L_{dn} or greater.

⁴ SEL is the sound exposure level.

⁵ L_{max} is the RMS (root mean squared) maximum level of a noise source or environment where peak is the maximum level of the raw noise source.

3.4 Federal Lands

Each of the two alternatives considered in this Supplemental Draft EIS would pass through about 31 acres of Federal lands on the west side of the Sevier River Valley. The proposed alignment would be within the jurisdictions of BLM's Richfield and Fillmore Field Offices. The proposed alignment has been reviewed for conformance with applicable land-use plans described for each field office. Although railroad rights-of-way are not specifically mentioned in the land-use plans, it is clear that, subject to review and approval, railroad rights-of-way are acceptable and consistent with the principles of multiple use.

In October 2008, the BLM Richfield Field Office released its most recent *Record of Decision and Approved Resource Management Plan* (Approved RMP). The Approved RMP provides guidance for the management of over 2,100,000 acres of public land and an additional 1,595,000 acres of Federal mineral estate administered by BLM in Sanpete, Sevier, Piute, Wayne, and Garfield Counties in central Utah and includes most of the area affected by the Proposed Action. In correspondence dated March 31, 2011, BLM stated that OEA should review the Approved RMP, and that, per the Approved RMP, the Supplemental Draft EIS should include the following information:

- BLM Natural Areas inventory
- Visual resource management (VRM) inventory
- Threatened and endangered plant and animal surveys that address the Mexican spotted owl and its habitat

3.4.1 Impacts to BLM Natural Areas

Lands managed in the Approved RMP as non-Wilderness Study Area lands with wilderness characteristics are referred to as BLM Natural Areas. According to the Approved RMP, BLM Natural Areas will be managed "to protect, preserve, and maintain values of primitive recreation, and the appearance of naturalness and solitude." The Approved RMP specifies the following 12 non-Wilderness Study Area lands, totaling 78,600 acres. These lands have wilderness characteristics and are required to be managed specifically to maintain their wilderness characteristics:

- | | | | |
|-----------------------------|--------------|--------------------------|-------------|
| • Dirty Devil/French Spring | 6,100 acres | • Mount Ellen–Blue Hills | 3,900 acres |
| • Dogwater Creek | 3,100 acres | • Mount Pennell | 4,700 acres |
| • Horseshoe Canyon South | 12,200 acres | • Notom Bench | 8,200 acres |
| • Jones Bench | 2,600 acres | • Ragged Mountain | 7,900 acres |
| • Labyrinth Canyon | 2,800 acres | • Red Desert | 8,900 acres |
| • Little Rockies | 9,500 acres | • Wild Horse Mesa | 8,700 acres |

OEA reviewed the Approved RMP including Map 2, which shows the locations of these areas. None are within the area affected by either the Proposed Action (Alternative B/B2) or Alternative B3/B2, and therefore OEA has determined that the project would not affect BLM Natural Areas.

3.4.2 Impacts to Visual Resources

The scenic quality of an area depends on its visual resources—the physical features that make up the visible landscape including land, water, vegetation, and human-made features such as buildings, roads, railways, and structures. The study area for the visual resources analysis includes the proposed alternatives and the viewshed of the alternatives. The viewshed is defined as all areas from which physical changes associated with the proposed alternatives could be seen. The viewshed is influenced by existing topography, vegetation, and structures. Within the study area, viewer groups consist of residents of the towns of Fayette, Gunnison, Centerfield, Redmond, and Salina and people engaging in farming and recreation activities on public or private lands.

3.4.2.1 Approved RMP Classes

The Approved RMP establishes the BLM goals to “manage public lands for their scenic values while providing for overall multiple use and quality of life for local communities and visitors to public lands” and to “manage actions to preserve those scenic vistas that are deemed most important.” The BLM VRM classifications are established through the resource management planning process for lands administered by BLM according to BLM Manual Handbook 8410-1 (January 17, 1976). This method was used on all segments of the corridor that crossed public land administered by BLM.

VRM uses four categories to classify visual resources. These categories, and the estimated acreage within the BLM Richfield Field Office’s jurisdiction, are:

- **Class I** – 446,900 acres. Management goal is to preserve the existing character of the landscape.
- **Class II** – 249,800 acres. Management goal is to retain the existing character of the landscape.
- **Class III** – 393,100 acres. Management goal is to partially retain the existing character of the landscape.
- **Class IV** – 1,038,200 acres. Provide for management activities, which require major modification of the existing character of the landscape.

Using Map 13 of the Approved RMP, OEA determined that the Proposed Action (Alternative B/B2) and Alternative B3/B2 would be adjacent to Class III and IV Federal lands. Most of the alignment of each alternative is within or adjacent to Class IV land; the northern and southern ends of the alternatives are adjacent to (but not within) Class III land.

The landscape was inventoried for existing foreground, middle ground, and background views. Several critical views, called key observation points, were selected to represent different types of views. Eleven key observation points in the study area were chosen to represent the visual resources of the area (see Appendix I, Visual Resource Management, of the Draft EIS).

The proposed project would extend northward from the Salina area up the Sevier River Valley to the southern reaches of the Juab Valley near Levan. The Sevier Valley is generally a broad, flat-to-rolling area that is divided by the Sevier River and its flanking alluvial terraces. The valley is generally bounded by the Pahvant Range and Valley Mountains to the west and

the San Pitch Mountains to the east. A large portion of the valley floor supports farms that rely on an irrigation system composed of an extensive canal and ditch network.

Foreground and middle ground views in the study area largely consist of pasturelands and irrigated crops, while background views are largely dominated by the Pahvant Range, Valley Mountains, and San Pitch Mountains. Existing roads, rail lines, utility rights-of-way (power lines), canals, and recreational infrastructure (campground and parking lots) contribute to the visual character of the study area.

3.4.2.2 *Short-Term Impacts*

The existing visual resources and impacts were discussed in the Draft EIS in Section 3.15, Aesthetics, and Section 4.15, Impacts on Aesthetics, respectively. That discussion is presented in Appendix D of this Supplemental Draft EIS.

The alternatives would involve constructing a new rail line that would connect the UPRR mainline to shippers in Sanpete and Sevier Counties. The alternatives would run from the UPRR mainline near Juab, about 16 miles south of Nephi, to the industrial park about 0.5 mile southwest of Salina. Short-term construction-related impacts in the study area would include construction vehicle activity and accompanying staging areas, stockpiling of excavated material, and construction-related dust.

During construction, the work zone would be cleared of vegetation. The bare ground would likely contrast visually with the surrounding cultivated agricultural and developed residential areas. Visual quality from sensitive viewer locations would be temporarily reduced during construction. Until the construction is completed and the right-of-way is revegetated, the construction area would stand out.

Construction-related visual impacts from the rail line itself would likely be greatest where construction would require the largest cut slopes. Mitigation for large cut slopes is addressed in Section 4.2.12, Voluntary Mitigation Measures for Aesthetics, of this Supplemental Draft EIS. Additionally, where the alternatives are farther from large viewer groups, the construction-related visual impacts would be apparent to fewer people, while in locations where the alternatives are closer to viewer groups, construction-related visual impacts would be more obvious. Construction-related visual impacts would likely be greatest in locations where the alternatives are closer to U.S. 50, U.S. 89, and I-15; near the Painted Rocks Campground; at the Sevier Bridge Reservoir; at the Redmond Wildlife Management Area (WMA); and in the town of Salina.

3.4.2.3 *Long-Term Impacts*

There are two basic user groups associated with the rail line: those using the rail line and those looking at the rail line. The purpose of the rail line is commercial and industrial rather than recreational, so no passengers would be using the rail line and there would be no viewers in the first group. The second viewer group includes local residents and agricultural landowners as well as commercial and industrial owners. There are also scattered recreational viewers such those using the Sanpete Fish and Game Club and boaters at the Sevier Bridge Reservoir. These groups experience a visual sensitivity that depends on the number and type of viewers and the frequency and duration of views.

Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the number of viewers and viewing duration. The visual sensitivity is generally higher for the group viewing the new rail right-of-way than for the group that uses the rail right-of-way (FHWA 1983; U.S. Forest Service 1995). Residential and agricultural viewers typically have extended viewing periods and are concerned about changes in their views. Viewers using recreation areas are also concerned about the changes in their views.

The long-term visual impacts from the alternatives would result from a new rail line, including cut-and-fill slopes, bridges, loss of agricultural land and other vegetation, and drainage structures. The railroad tracks would not be under continuous use; there would be one round trip (two movements which equals one full load and one empty back-haul) per day. For this reason, the viewers are not likely to have a high sensitivity to the tracks because the tracks themselves are not very visible to most viewers. In addition, any maintenance buildings or storage yards would follow Federal, state, and local policies and regulations to maintain the integrity of visual resources in the study area.

Because the Proposed Action (Alternative B/B2) and Alternative B3/B2 would not affect areas that are sensitive to visual modifications, OEA has concluded that, after mitigation, the impacts would be low.

3.4.3 Impacts to Threatened and Endangered Species

In its correspondence of March 2011, BLM asked OEA to provide information on surveys for threatened and endangered plants and animals that address the Mexican spotted owl and its habitat. OEA has expanded this issue to include a discussion in the Supplemental Draft EIS of other threatened and endangered species, including the bonytail (*Gila elegans*), least chub (*Iotichthys phlegethontis*), southwestern willow flycatcher (*Empidonax traillii extimus*), and heliotrope milkvetch (*Astragalus montii*), so that the most recent data can be provided.

USFWS determines whether a Federal action would be likely to adversely affect, harm, or jeopardize the continued existence of any threatened, endangered, or candidate species or its habitat (see Appendix B, U.S. Fish and Wildlife Coordination, of the Draft EIS). USFWS designates Federally protected threatened, endangered, and candidate species. The Utah Division of Wildlife Resources (UDWR) also designates state species of concern for Utah. Section 3.5, State Lands, of this chapter provides additional discussion regarding state species of concern as administered by UDWR.

For the Draft EIS, OEA consulted with state and Federal officials regarding the potential presence of any threatened, endangered, or sensitive species in the study area. The characteristics (preferred habitat and behavior) of the species identified by these agencies were further researched to determine the probability of the species being present in the study area and to determine the species with potential to be affected by project construction and operation.

According to the Draft EIS and the BLM Richfield Field Office's October 2008 Approved RMP, no locations in the study area have been designated by USFWS as critical habitat for any Federally listed species. There is Mexican spotted owl habitat within the Federal lands managed by the BLM Richfield Field Office, but this habitat is over 100 miles southeast of the study area. Stream habitat for the bonytail and least chub is also available along the southeastern boundary of the lands managed by the Richfield Field Office, but these streams are not in the study area. As mentioned in Section 2.1.1.1, Northern Alternatives, of this

Supplemental Draft EIS, least chub is found in the Mills area, west of the study area. Populations have not been identified in Chicken Creek Reservoir or the Sevier Bridge Reservoir (UDWR 2013).

USFWS determined that the Proposed Action would have no effect on Federally listed threatened, endangered, or sensitive species (see Appendix B, U.S. Fish and Wildlife Coordination, of the Draft EIS). USFWS has designated critical habitat for two Federally listed species: one bird species, the southwestern willow flycatcher, and one plant species, the heliotrope milkvetch. However, the areas designated as critical habitat for each of these species are outside the project right-of-way. Also, BLM has stated that no threatened, endangered, or sensitive species are present on BLM-administered land in the project right-of-way (Greenwood 2005).

As part of mitigation for the impacts from this Proposed Action, surveys for specific species would be conducted prior to construction, if required by the affected land-management agency. These surveys would be conducted according to agency-approved protocols.

3.5 State Lands

The study area would be within the jurisdictions of the Central and Southern Regions of UDWR. The two proposed alternatives would pass directly through about 143 acres of state land in the Sevier River Valley in Yuba State Park and the Redmond WMA. UDWR reviewed the Draft EIS, and, in correspondence dated August 15, 2007, UDWR raised several issues that are addressed in this Supplemental Draft EIS, including:

- Impacts to wetlands
- Vegetation management and the effects of invasive species
- Wildlife movement and management
- Species of special concern at the Redmond WMA and Chicken Creek Reservoir

State parks are described in Section 3.3.3.5, Wildlife Sanctuaries, Refuges, and State Parks, of the Draft EIS. Since publication of the Draft EIS in June 2007, both the Yuba State Park Resource Management Plan (May 2009) and the Redmond Wildlife Management Area Management Plan (December 30, 2008) have been published. In addition, the list of Utah's state-listed sensitive species by county was updated on March 29, 2011.

The Yuba State Park Resource Management Plan (RMP) is intended to help guide the Utah Division of State Parks and Recreation's stewardship obligations for Yuba State Park. The RMP makes specific recommendations regarding resource management including dealing with lake fluctuations, promoting a healthy warm-water fishery, protecting and interpreting archaeological resources, and managing cattle grazing in the park.

The Redmond WMA allows public access for wildlife viewing, hunting, trapping, and wildlife education during appropriate seasons when such activities will not adversely affect wildlife nesting and brood rearing. The northern border of the property is located along Redmond Reservoir which allows important access for waterfowl hunters and bird watchers as well as access for fishing. The reservoir is currently an important northern pike (*Esox lucius*), crappie (*Pomoxis nigromaculatus*), and bass (*Micropterus* spp.) fishery.

3.5.1 Wetlands

3.5.1.1 Existing Conditions of Wetlands

Existing wetlands near the Redmond WMA are also included in the wetland descriptions in Section 3.1.3, Existing Conditions, of this chapter and are shown in Appendix C, Detailed Wetland Maps, of this Supplemental Draft EIS. The wetlands in the Redmond WMA consists of about 80 percent Baltic rush, which is the preferred nesting habitat of mallards. This Baltic rush has been grazed for many years. Ducks need years of old growth in this habitat type to support their nests over water. They also need new growth to protect them from avian predation. The Utah Department of Natural Resources eliminated grazing in this area to allow habitat to develop to its full potential.

UDWR officials have taken steps to remove or disable drainage ditches to keep water on the WMA. Five major dikes hold water and provide important resting and feeding areas. These dikes also provide permanent water that enables the growth of vital submergent vegetation. The dikes and ponds are located mainly along the old Sevier River channel. The water level of the straightened and channelized Sevier River is about 10 feet lower than the wetland surface. The area has high spatial and plant species diversity with a good mixture of wet meadow, marshes, open water, and upland habitats.

3.5.1.2 Impacts to Wetlands

As proposed in the Draft EIS, Alternative B would fill about 3.9 acres of wetlands that are in or near the Redmond WMA. The wetlands in the Redmond WMA include 1.4 acres of emergent marsh and 2.5 acres of wet meadow. The Proposed Action (Alternative B/B2) and Alternative B3/B2 would fill about 0.2 acre of wet meadow in the Redmond WMA.

Neither alternative would affect any wetland areas in Yuba State Park.

3.5.2 Vegetation Management and the Effects of Invasive Species

3.5.2.1 Existing Conditions of Vegetation and Invasive Species

Vegetation types in Yuba State Park's surrounding area consist of grasses and northern desert shrub. Important vegetation in addition to sagebrush (*Artemisia tridentata*) includes Indian rice grass (*Achnatherum hymenoides*), needle and thread grass (*Hesperostipa comata*), winterfat (*Krascheninnikovia lanata*), black greasewood (*Sarcobatus vermiculatus*), and shadscale (*Atriplex confertifolia*). Salts affect the soils in the bottomlands. These areas provide winter range for livestock and wildlife. There are several grazing allotments managed by BLM within the Yuba Reservoir Special Recreation Management Area.

The Redmond WMA encompasses 567 acres of land adjacent to the Sevier River and just south of Redmond Reservoir.

3.5.2.2 Impacts to Vegetation and Invasive Species

Construction of either alternative would temporarily disturb land cover in the right-of-way within Yuba State Park and the Redmond WMA. Vegetation would be removed during construction and the maintenance and operations phase in coordination with appropriate seasonal restrictions to ensure protection of the breeding, nesting, and roosting of all migratory birds. Preconstruction surveys for burrowing owls, raptors, and migratory birds

will be conducted if vegetation is scheduled to be cleared during the nesting seasons for any of these three groups of bird species. The nesting season for raptors in larger, woody vegetation (such as trees near streams or canal crossings) is February 1 through July 31. The nesting season for smaller, migratory songbirds is May 1 through August 30. Clearing and grubbing could be performed outside these seasons without surveys.

Best management practices (BMPs) including bank stabilization and erosion-control measures will be used to protect fish habitat and other aquatic resources.

The Applicant would be required to prepare a Reclamation Plan that would establish guidelines for minimizing site disturbance prior to and during construction, revegetation standards and success criteria, and periodic monitoring requirements. The Reclamation Plan would include items such as site preparation, soil distributions, seeding mixes, measures that would protect seed and seedling establishment (such as erosion-control matting, mulching, hydro-seeding, surface roughening, furrow placement, fencing, targeted fertilization, netting, geotextiles, and watering as appropriate), and establishment of a desired self-perpetuating native plant community. The Applicant would work with UDWR to establish species composition, diversity, structure, and total ground cover appropriate for the desired plant community.

A Weed Management Plan would be prepared as a stand-alone document. This plan would establish protocols to ensure that any non-native plants that might be used for short-term stabilization of the exposed area or to help re-establish the native plant communities would not hybridize, displace, or offer long-term competition to the endemic plants. The plan would establish methods for prevention, treatment and biological control, timing of management activities, and long-term monitoring.

Monitoring requirements would include items such as timing, establishing control and reference points, and documentation protocols in accordance with the monitoring protocol approved by BLM or other surface-management agency. The monitoring plan would provide methods for establishing or creating:

- Photo reference points
- Compliance with the reclamation plan
- Monitoring protocols
- Timing of monitoring during the year
- Methods to identify sites needing additional work or more reclamation activities outlining a site-specific prescription for actions to be implemented, including:
 - Reseeding of areas not attaining reclamation success
 - Soil stabilization
 - Weed control
 - Mulching/fertilization or other cultural practices
- Geospatial file(s) identifying surface disturbance activities, ecological sites, reclamation, areas needing additional reclamation (such as workover areas and areas with unsuccessful reclamation), and weed infestations
- Reporting requirements

3.5.3 Wildlife Movement and Management

3.5.3.1 Existing Conditions of Wildlife Movement and Management

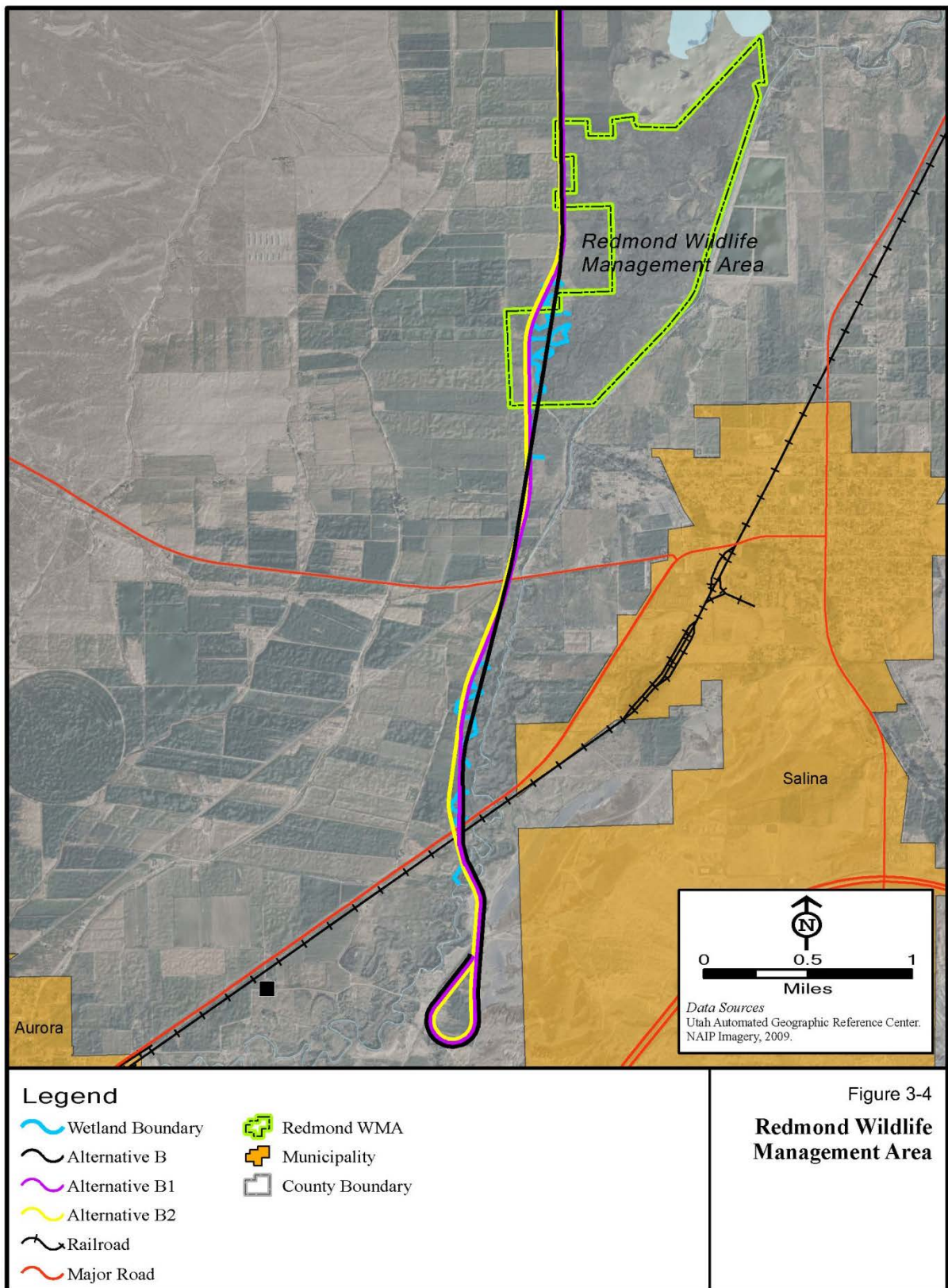
The foothills east of SR 28 near Yuba State Park are considered critical winter habitat for mule deer. Private lands also provide important winter habitat. The Valley Hills to the southeast of Yuba Reservoir provide summer habitat.

UDWR purchased the Redmond WMA for upland game and waterfowl habitat and sporting access. The Redmond WMA offers many birds and mammals a place for reproduction, resting, and feeding during migration and provides a home for several resident species. Ring-necked pheasant (*Phasianus colchicus*), mourning dove (*Zenaida macroura*), California quail (*Callipepla californica*), cottontail rabbit (*Sylvilagus audubonii*), and a small population of mule deer (*Odocoileus hemionus*) inhabit the WMA. Many species of ducks and Canada geese use the WMA as well. Furbearers include coyote (*Canis latrans*), red fox (*Vulpes vulpes*), raccoon (*Procyon lotor*), weasel (*Mustela frenata*), mink (*Mustela vison*), and muskrat (*Ondatra zibethicus*). Non-game species that use the WMA include jackrabbit (*Lepus californicus*), hawks, eagles, and many species of songbirds.

The Redmond WMA (see Figure 3-4 below) is very important in providing a stopping and staging place for migrating waterfowl as they travel both north and south. This area supports a diversity of wildlife including a variety of ducks, Canada geese, shorebirds, and neotropical migratory songbirds. Many of these birds stop for nesting and young-rearing throughout the Sevier River Valley. This wildlife use creates unique hunting and wildlife-viewing opportunities to the public that are unavailable elsewhere in the valley.

UDWR's management goals are as follows: maintain and promote use of the area by upland game, waterfowl, and native wildlife; protect and improve critical wildlife habitats; maintain and develop non-harmful public access; secure the property; and control livestock grazing and trespassing.

Figure 3-4. Redmond Wildlife Management Area



3.5.3.2 Impacts to Wildlife Movement and Management

The Proposed Action (Alternative B/B2) and Alternative B3/B2 would impact about 3.9 acres of wildlife habitat in the Redmond WMA (see Table 3-7 below and Figure 3-4 above). These impacts would consist of about 0.2 acre of emergent marsh and 3.7 acres of agricultural land. None of the alternatives would affect critical wildlife habitat. Agricultural land provides nesting and foraging habitat for long-billed curlew (*Numenius americanus*). However, this habitat is widely available in the vicinity. The Applicant would construct the rail line outside the long-billed curlew migration/nesting season and/or would conduct surveys prior to construction to ensure that birds are not accidentally killed.

Table 3-7. Direct Impacts to Habitat in Yuba State Park and the Redmond Wildlife Management Area in acres		
Area	Proposed Action (Alternative B/B2)	Alternative B3/B2
Redmond WMA	3.9	3.9
Yuba State Park	10.9	10.9
Yuba Lake Recreation Area	0.0	0.0

The potential impacts to the long-billed curlew from the alternatives are low. The habitat requirements for the long-billed curlew include short-stature grasslands with a bare ground component, shade, and an abundant prey base, all of which are found in and immediately adjacent to the Redmond WMA.

None of the alternatives would affect the management goals or objectives described in the Redmond WMA management plan. Specifically, the goals to promote use by upland game, waterfowl, and wildlife and to improve critical wildlife habitats would not be affected.

Yuba State Park is mostly surrounded by sagebrush communities. Waterfowl species typically do not use sagebrush communities adjacent to water bodies. The Proposed Action (Alternative B/B2) and Alternative B3/B2 would permanently impact about 10.9 acres of wildlife habitat associated with Yuba State Park (see Table 3-7 above). These impacts would occur to mostly sagebrush communities. Although some wildlife habitat associated with these vegetation communities would be lost, the function of Yuba State Park as a wildlife refuge and migratory stopover for waterfowl would not be affected. Moreover, the management objectives and recommendations would not be affected. Although either of the alternatives would impact a small amount of wildlife habitat, this habitat is widely available.

The Proposed Action (Alternative B/B2) and Alternative B3/B2 would cross the Sevier River Valley at the southern end of the alignment and would likely cross trails or paths normally used by wildlife. Though fences are a mitigation option to prevent wildlife strikes, UDWR does not believe that either alternative would require escape ramps or fences that would force big game to pass under structures (Karpowitz 2007). Wildlife would benefit from being able to move naturally across the right-of-way. If the right-of-way needs to be fenced or if train traffic increases, the Applicant would coordinate with UDWR for appropriate design criteria and standards.

UDWR's management objectives for the Redmond WMA (UDWR 2008) are as follows: conduct mechanical and natural treatments to provide improved upland and waterfowl habitat; continue to improve habitat for migratory wildlife by planting and farming beneficial crops, grasses, and trees; develop food plots for wildlife habitat; eliminate cattle grazing on the WMA unless it is performed as a measure to improve wildlife habitat; control weeds on the WMA by using herbicide and planting competitive plant species; and plant competitive species that are beneficial to wildlife.

A statewide conservation agreement for southern leatherside chub (*Lepidomeda aliciae*) was in development when the Management Plan was finalized and published in May 2010. The goals of the conservation actions in that plan will be incorporated into the management of the Redmond WMA. As of March 29, 2011, the southern leatherside chub was considered a wildlife species of concern but was not listed as a conservation agreement species. The Management Plan does note that, per the rationale for wildlife species of concern designations, a range-wide southern leatherside chub Conservation Agreement and Strategy is proposed and is in review by all participating agencies.

3.5.4 Species of Special Concern

3.5.4.1 Existing Conditions of Species of Special Concern

The Utah Natural Heritage Program reports occurrence for bald eagle (*Haliaeetus leucocephalus*) within a 0.5-mile radius of Yuba State Park. In addition, in the vicinity there are recent records of occurrence for southern leatherside chub and long-billed curlew. All three of these species are included on the Utah Sensitive Species List. These species are also described in Section 3.3.4, Threatened, Endangered, and Sensitive Species, of the Draft EIS. The potential effects on these species are discussed in Section 3.5.4.2, Impacts to Species of Special Concern, of this chapter.

The Intermountain West Joint Venture, in its 2005 *Coordinated Implementation Plan for Bird Conservation in Utah*, designated Yuba Reservoir and nearby Chicken Creek Reservoir as Bird Habitat Conservation Area 30 for the southern region of the state. The plan cites the following criteria for designation as a habitat conservation area: open water with large marsh areas around the perimeter, waterfowl and shorebird nesting habitat, long-billed curlew nesting in adjacent fields, and peregrine falcon (*Falco peregrinus*) foraging during migration. The plan cites the following additional species as priority birds for this area: cinnamon teal (*Anas cyanoptera*), gadwall (*Anas strepera*), northern pintail (*Anas acuta*), northern shoveler (*Anas clypeata*), Canada goose (*Branta canadensis*), American avocet (*Recurvirostra americana*), and black-necked stilt (*Himantopus mexicanus*). Since 2005, a number of burrowing owl nests have been found in the BLM-administered land northwest of Redmond. The burrowing owl (*Athene cunicularia*) is a state-listed species of special concern.

Museum records indicate a southern leatherside chub being collected in the part of the Sevier River adjacent to the Redmond WMA as early as 1934. Southern leatherside chub in the WMA have been documented by native aquatics biologists as recently as 2002. The *Conservation Agreement and Strategy for Leatherside Chub* was published in May 2010. Long-billed curlew, a wildlife species of concern on the Utah Sensitive Species List, have been found in the vicinity of the WMA. Bald eagles commonly use the WMA as winter roosting habitat.

Since publication of the Draft EIS in June 2007, Utah's State Listed Species by County has been updated. The list was last updated on March 29, 2011, and was compiled using known species occurrences and species observations from the Utah Natural Heritage Program's Biodiversity Tracking and Conservation System. The list includes both current and historic records. In addition to the sensitive species listed in Table 3.3-4, Federal and State-Listed Threatened, Endangered, or Sensitive Species of Concern with Potential to Occur in the Study Area, of the Draft EIS, the grasshopper sparrow might also be present in the study area.

UDWR has stated that seeps and springs in Juab Valley that are located in the vicinity of the northern portion of the Proposed Action might provide habitat for special-status species such as the Columbia spotted frog (*Rana luteiventris*), least chub (*Iotichthys phlegethontis*), spring snails (*Pyrgulopsis* spp.), or other unusual mollusks or macroinvertebrates.

Museum records and sampling near this area (Salina Creek and downstream from Salina in 1995 and sampling near Annabella in 2007) indicate that southern leatherside chub, reddsideshiner (*Richardsonius balteatus*), Utah chub (*Gila atraria*), Utah sucker (*Catostomus ardens*), mountain sucker (*Catostomus platyrhynchus*), and possibly speckled dace (*Rhinichthys osculus*) might be present in the Sevier River along the WMA.

3.5.4.2 Impacts to Species of Special Concern

The potential impact on the bald eagle from the Proposed Action (Alternative B/B2) and Alternative B3/B2 is low. Bald eagles are winter migrants in the study area, and little if any suitable nesting habitat is present.

The potential impacts on the southern leatherside chub are low to none from the alternatives. Southern leatherside chub is present in the Sevier River and its tributaries. The alternatives cross the Sevier River at Yuba Narrows (at the Sevier Bridge Reservoir) and again southwest of Salina. These crossings would span the river, and no bridge structures or fill material would be placed in the Sevier River. Least chub have not been observed in Chicken Creek, the Sevier River, or the Sevier Bridge Reservoir (UDWR 2013).

The Proposed Action as described in this Supplemental Draft EIS could potentially affect state sensitive species in the Redmond WMA and in the springs and seeps at Chicken Creek Reservoir. Mitigation has been included that requires additional surveys that would establish the presence of any sensitive species in Chicken Creek Reservoir so that appropriate design measures can be implemented that would avoid or minimize the impacts. These additional surveys would be conducted during the design phase for the rail line.

Alternative B3/B2 would have the same impact on state sensitive species in the Redmond WMA. However, because Alternative B3/B2 would be east of Chicken Creek Reservoir, impacts on sensitive species that use the area would be avoided. The potential for impacts to these special-status species from the alternatives is low because no impacts to springs or seeps are anticipated with this project. BMPs including erosion-control measures will be used to protect any adjacent aquatic resources.

3.6 Historic Properties and Paleontological Resources

During preparation of the Draft EIS, OEA conducted broad studies (including a pedestrian survey) and coordinated extensively with the Utah State Historic Preservation Officer (SHPO), BLM, the Bureau of Indian Affairs, and 11 Federally recognized tribes: the Paiute Indian Tribe of Utah, the Ute Indian Tribe, the Goshute Indian Tribe, the Skull Valley Band of Goshute Indians, the Hopi Tribe, the Southern Ute Tribe of Colorado, the Ute Mountain Ute of Colorado, the White Mesa Ute, the San Juan Southern Paiute of Arizona, the Kaibab Paiute Tribe of Arizona, and the Moapa Band of Paiute Indians of Nevada.

3.6.1 Existing Conditions

3.6.1.1 *Historic Properties*

Within the area of potential effects for all of the alternatives, a total of 45 archaeological properties (also referred to in this Supplement Draft EIS as *historic sites* or *historic properties*) were identified, of which 33 were determined to be eligible for the National Register of Historic Places (NRHP). No architectural properties or traditional cultural properties were identified. Impacts to NRHP-eligible archaeological sites from the Proposed Action in the Draft EIS (Alternative B) were documented using the Section 106 regulations. The definitions of these impacts are as follows:

- **No Historic Properties Affected.** A No Historic Properties Affected determination is made when the alternative would have no impact (direct or indirect) on the character, use, or historic qualities of an architectural property or archaeological site.
- **No Adverse Effect.** A No Adverse Effect determination is made when the alternative would affect the minor aspects of the character, use, or historic qualities of an architectural property or archaeological site, but the property or site retains its essential historic characteristics.
- **Adverse Effect.** An Adverse Effect occurs when the alternative would affect the essential character, use, or qualities of an architectural property or archaeological site.

3.6.1.2 *Paleontological Resources*

In a previous analysis conducted for the Draft EIS (see Section 3.5.6, Paleontological Resources, of the Draft EIS), OEA in consultation with the Utah Geological Survey (UGS) determined that the project area is primarily within Quaternary alluvium, alluvial fan deposits, and terrace deposits. Fossils in the vicinity of the project area typically include plants and invertebrates. Using BLM ranking criteria (BLM Manual and Handbook H-8270-1) for the potential of an area to yield fossils, OEA considers the project area to fall within the BLM's Condition 2. A surface inspection of a portion of the project area was conducted in 2006, and no fossils were found in a landscape covered with undifferentiated Quaternary sediments. OEA has not identified any restrictions based on the potential to affect fossils.

3.6.2 Impacts to Historic Properties and Paleontological Resources

3.6.2.1 Historic Properties

Studies determined that 33 of the 45 archaeological sites identified within the area of potential effects are properties that are eligible for listing on the NRHP and would be adversely affected by the construction of Alternative B. Of the 33 eligible archaeological sites that would be adversely affected, 24 are prehistoric sites, seven are historic sites, and two are multi-component sites.

- The 24 adversely affected prehistoric sites are 15 lithic scatters, eight temporary camps, and one possible habitation site.
- The seven adversely affected historic sites are the UPRR tracks and buildings; a hay derrick; a farmstead; segments of the Piute Canal, Rocky Ford Canal, and Vermillion Canal; and remnants of the Denver & Rio Grande Western Railroad.
- The two adversely affected multi-component sites are a prehistoric temporary camp/historic trash scatter and a prehistoric lithic scatter/historic trash site.

The historic properties data considered in this analysis were acquired during Class I and Class III inventories of the project alternatives except Alternative B3. Alternative B3/B2 includes right-of-way outside the original area of potential effects studied for the Draft EIS and for the current Proposed Action (Alternative B/B2). Therefore, Alternative B3/B2 has not been completely surveyed. However, a Class I literature search inventory of this alternative indicates that the likelihood that significant historic properties could be adversely affected by Alternative B3/B2 is similar to that for the Proposed Action.

Due to the potential for adverse effects to significant historic properties, the Board, in cooperation with USACE and BLM, is developing a Programmatic Agreement (PA) with the Utah SHPO and interested tribes to address those impacts to historic properties. Consultation toward a signed and executed PA is being carried out pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations described in 36 CFR 800. Of particular relevance is 36 CFR 800.14(b), which describes the use of PAs as program alternatives to the standard Section 106 process described in 36 CFR 800.3 to 800.7. Development of a PA for the Proposed Action is called for because the effects of the project on historic properties are regional in scope, because the effects on historic properties have not yet been fully determined for Alternative B3, and because non-Federal parties, such as SCAOG, would be delegated major decision-making responsibilities during the undertaking.

3.6.2.2 Paleontological Resources

Based on previous analysis and consultation conducted for the Draft EIS (see Section 3.5.6, Paleontological Resources, of the Draft EIS), OEA expects the project to have no impact on paleontological resources. Plant and invertebrate fossils might be present in the general vicinity of the project area; however, none were identified in a 2006 survey, and the surface geology is characterized by deep sediments younger than potential fossil-bearing rock.

3.7 Climate Change and Greenhouse Gas Production

Global climate change is a term used to describe the gradual increase or decrease in worldwide average surface temperatures and changes in precipitation, wind, or other climate variables. The Proposed Action's main potential contribution to global climate change would be through the emissions of greenhouse gases (GHG), primarily carbon dioxide.

The Proposed Action is expected to decrease regional fuel use due to the shift of truck movements of coal to rail transportation and would provide a direct connection to the national rail system that would serve as a viable alternative to truck transport of coal.

In 2011, the SUFCO mine produced about 6 million to 7 million tons of coal. About 1.5 million tons are now carried by truck to the Sharp loading facility near Levan, a round-trip distance of about 160 miles. Most of the coal shipped to Levan is consumed by the Intermountain Power Plant near Delta, Utah, and the rest is shipped to power plants in Nevada. The customer mix and mine production rate are not expected to change with the Proposed Action.⁶ However, the Proposed Action would reduce the amount of miles traveled by truck by over half, thus reducing the airborne particulate emissions and GHG produced by these truck trips by similar amounts. The reduction would be offset slightly by emissions from the locomotives. The overall net result suggests that GHG emissions, associated with the shift from truck to rail, would be reduced by up to one-half. For more information, see Section 4.10, Impacts to Energy Resources, of the Draft EIS (Chapter 4 of the Draft EIS is provided in Appendix D of this Supplemental Draft EIS).

To the degree that GHG emissions have any effect on global climate, a local reduction of fuel use would have a regional benefit to GHG, but the project offsets would have negligible effects on the regional or global climate. Overall, the effect on global GHG production by the Proposed Action would be neutral.

⁶ According to Bowie Resources, it is unlikely that construction of the proposed rail line would increase coal production at the mine (personal communication, Malcolm Nash, July 16, 2013). Therefore, OEA cannot state with certainty that the Proposed Action would change coal-combustion-related GHG emissions.

3.8 Other Resource Areas

OEA has reviewed other natural and socioeconomic resources in the region and has concluded that the revised alternatives would have the same environmental consequences as those described in Chapter 4, Environmental Consequences, of the Draft EIS. These resources include:

- **Land use** – Alignment shifts on the southern end are within the original study area described in the Draft EIS and little development has occurred since the Draft EIS was published; therefore, the affected environment and the impacts to the environment remain small. About 38 acres of the Alternative B3 alignment are outside the original study area in the Draft EIS. However, based on visual inspection, the area is similar to the original study area. Additional land would be converted from agricultural use to permanent railroad right-of-way. Impacts to Federal and state land are discussed in Section 3.4, Federal Lands, and Section 3.5, State Lands, of this chapter.
- **Wildlife and terrestrial resources** – Alignment shifts on the southern end are within the original study area described in the Draft EIS; therefore, the affected environment and the impacts to the environment remain the same as described in the Draft EIS. About 38 acres of Alternative B3 are outside the original study area. However, based on visual inspection, the area is similar to the original study area.
- **Water quality** – Alignment shifts on the southern end are within the original study area described in the Draft EIS; therefore, the affected environment and the impacts to the environment remain the same as described in the Draft EIS. A portion of Alternative B3 is outside the original study area. However, based on visual inspection, the area is similar to the original study area with respect to perennial and ephemeral surface water bodies.
- **Geologic resources** – Alignment shifts on the southern end are within the original study area described in the Draft EIS; therefore, the affected environment and the impacts to the environment remain the same as described in the Draft EIS. A portion of Alternative B3 is outside the original study area. However, based on visual inspection, the area appears to have a similar geological setting as the northern portion of the original study area.
- **Environmental justice** – Alignment changes do not affect any environmental justice communities in the area.
- **Hazardous materials** – Alignment changes do not affect the list of hazardous material sites evaluated in the Draft EIS.
- **Air quality** – Although the alternatives are slightly longer, the amount of air pollutant emissions by locomotives during operation of the rail line would be negligible. Slightly increased emissions by locomotives would be offset by the reduced emissions resulting from removing trucks from the local highway system.

Coal dust, produced by the loading of rail cars at the tipple,⁷ would likely be reduced from current amounts. The existing tipple, which is about 5 miles west of Levan,

⁷ A tipple is a structure used at a mine to load the extracted product (for example, coal or ores) for transport, typically into railroad hopper cars.

would be dismantled, and a new tipple would be constructed about 0.5 mile southwest of Salina. The new tipple would incorporate technology advances that have been implemented to reduce the production of coal dust from the action of loading the hopper cars. These technology advances also include the application of surfactants to minimize dust emanating from the hopper cars while in transit.

Because the length of the proposed alternatives is slightly greater than that of Alternative B as proposed in the Draft EIS, fugitive-dust emissions would be slightly greater for the Proposed Action (Alternative B/B2) and Alternative B3/B2. However, the amount of increase would be negligible compared to the dust produced during typical farming activities and the use of local unpaved roads.

- **Energy resources** – Alignment changes would not change the number of truck trips converted to rail; the distance that would be traveled by trains with Alternative B3/B2 is only slightly longer (up to 1.9 miles) than the distance traveled by trains with the Proposed Action (Alternative B/B2). Therefore, the energy impacts are the same as described in the Draft EIS.
- **Socioeconomic resources** – Alignment shifts on the southern end are within the original study area described in the Draft EIS; therefore, the affected environment and the impacts to this environment remain the same as described in the Draft EIS. A portion of Alternative B3 is outside the original study area. However, based on visual inspection, the area is similar to the original study area.
- **Transportation** – Alignment shifts would have no impact on the local or regional transportation network. Alternative B3/B2 would add one additional highway/rail at-grade crossing of Powell Lane at the northern end of the alignment.

3.9 Cumulative Impacts

On September 8, 2011, Sevier Power Company (SPC) submitted a Notice of Intent to construct and operate a 580-megawatt, combined-cycle, natural gas-fired power plant near Sigurd, Utah, which is about 10 miles southwest of Salina. This area is an attainment area for all air quality criteria pollutants. The plant would consist of two natural gas-fired combustion turbines. This plant would be a new major source of air pollutant emissions, so an air quality impact analysis of the proposed plant's impact on Federal air quality standards and air quality-related values was required. SPC prepared this impact analysis, which was then reviewed by the Utah Division of Air Quality. On October 25, 2012, the Division approved the air quality permit for the plant.

SPC is currently working with BLM to obtain a permit for a gas pipeline that will come from the Scipio, Utah, area to the northwest to supply natural gas for the plant. SPC has not yet applied for any construction permits, and construction is not expected for at least 2 years. If constructed, the plant would permanently employ 20 to 30 people from surrounding communities. During construction, several hundred workers would be employed.

This proposed plant could have potential cumulative impacts with the Proposed Action in two resource categories. First, potential air quality impacts could occur during construction from a combination of fugitive-dust emissions caused by grading activities for each project. Second, concurrent construction could cause a shortage of available local construction workers.

The Proposed Action would also employ several hundred workers during construction, most of whom would be engaged in site clearing and grading activities and many of whom would also come from surrounding communities. As stated in Section 3.8, Other Resource Areas, of this chapter, some fugitive dust is expected during construction.

Construction of the rail project is expected to start within a few months of approval from OEA and the award of permits from BLM and USACE. Because the construction of the power plant is several years away, construction of the two facilities is not expected to overlap and therefore would not result in any cumulative impacts.